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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,166	02/11/2004	Sunji Ichikawa	OKI.644	1214
20987	7590	04/22/2005		
VOLENTINE FRANCO, & WHITT PLLC ONE FREEDOM SQUARE 11951 FREEDOM DRIVE SUITE 1260 RESTON, VA 20190			EXAMINER PAREKH, NITIN	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/775,166

**Applicant(s)**

ICHIKAWA, SUNJI

**Examiner**

Nitin Parekh

**Art Unit**

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- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 5,6 and 8-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02-11-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Applicant's election without traverse of Embodiment 1 of Group I, claims 1-4 and 7 in Paper No. 2 is acknowledged.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Givry (US Pat. 5229960) in view of Fukui et al. (US Pat. 6100594).

Regarding claims 1-4, De Givry discloses a semiconductor device/module (see Fig. 1 and 2) comprising:

- a chip support/die pad area/section (not numerically referenced- see area supporting the die 14 on a substrate 12 in Fig. 2)
- a first semiconductor die/chip having a surface on which first connecting tabs/electrode section is formed (see 14 and 18 respectively in Fig. 1 and 2), and a back surface fixed to the die support/pad section

- a second semiconductor die/chip (see 16 and 18 respectively in Fig. 1 and 2) having a surface on which second connecting tabs/electrode section is formed, and a back surface fixed to the surface of the first semiconductor chip
- support blocks/members (see 20 in fig. 1 and 2) having a surface fixed to the back surface of the second semiconductor chip and a back surface fixed to the die pad section, the support blocks/members being isolated from the first semiconductor die/chip
- conductive tracks/lead terminal sections respectively electrically connected to the first and second connecting tabs/electrode sections (not numerically referenced- see bonding wire connections on the substrate 12 in Fig. 1 and 2; Col. 3, line 15), and
- the first semiconductor chip/die and the second semiconductor die/chip each having same size/shape and same function (Fig. 1 and 2; Col. 1, line 50- Col. 2, line 36)

(Fig. 1 and 2; Col. 3, lines 1-58; Col. 1-3).

De Givry fails to teach a resin encapsulating body that seals the die pad section, the first and second semiconductor chips and the support member.

Fukui et al. teach a stacked package/device (see Fig. 11g and 12b) having a conventional encapsulation wherein a sealing resin/encapsulating body (see 8 in Fig.

11g) seals entire device/package including all components except external connection terminals (Col. 12, line 51- Col. 13, line 16).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the resin encapsulating body sealing the die pad section, the first and second semiconductor chips and the support member as taught by Fukui et al. so that the desired surface protection for the components of the device can be achieved in De Givry's device.

Regarding claim 7, De Givry and Fukui et al. teach substantially the entire claimed structure as applied to claim 1 above, wherein De Givry further teaches:

- the surface of the first semiconductor die/chip having first and second sides opposite to each other (see longer sides of 14 in Fig. 1 and 2)
- the surface of the second semiconductor die/chip having third and fourth sides opposite to each other (see shorter sides of 16 Fig. 1 and 2), and
- the fourth side of the second semiconductor die/chip protruding from the second side of the first semiconductor die/chip (see Fig. 1), and the fourth side thereof is located above the support block/member (see 16 and 20 in Fig. 1 and 2).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Parekh whose telephone number is 571-272-1663.

The examiner can normally be reached on 09:00AM-05:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

NP

04-16-05



NITIN PAREKH

PRIMARY EXAMINER

TECHNOLOGY CENTER 2800